



Australian Government

MEM30014 Apply basic just in time systems to the reduction of waste

Release: 1

MEM30014 Apply basic just in time systems to the reduction of waste

Modification History

Release 1. Supersedes and is equivalent to MEM30014A Apply basic just in time systems to the reduction of waste.

Application

This unit of competency defines the skills and knowledge required to review and make continuous improvements to an existing just-in-time (JIT) production system in manufacturing. JIT systems call for any item needed in production to be produced and available precisely when needed.

It includes the entire production system and value chain, beginning with the customer, and includes the sales outlet, product design, processing, and supply. It covers other JIT systems such as lean manufacturing, agile manufacturing or similar.

The unit applies to engineering or related activities, most likely in a team setting, and is suitable for people giving technical support in manufacturing or engineering operations and those pursuing technical qualifications and careers at paraprofessional or technician level. All work is carried out under supervision.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Engineering technician

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify potential to eliminate waste in the current system	1.1 Follow standard operating procedures (SOPs) and comply with work health and safety (WHS) requirements at all times 1.2 Identify value chain members 1.3 Apply principles of waste elimination to each step in the value chain

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.4 Analyse current storage and/or inventory in value chain for excesses 1.5 Analyse production lead time for all components, sub-assemblies and assemblies subject to JIT including potential for set-up time reductions 1.6 Analyse Kanban cards and flow authorisation indicators for appropriate quantity 1.7 Analyse workplace layout for flow and application of housekeeping principles 1.8 Analyse production process for excess rework and scrap
2. Draft workable procedures to implement improvements to JIT system	2.1 Liaise with key internal stakeholders to develop solutions to JIT issues 2.2 Liaise with key external members of the value chain to develop solutions to JIT issues 2.3 Determine key measures for improvements 2.4 Refer the plan to a higher authority for approval
3. Implement the JIT system improvements	3.1 Implement the JIT system improvements according to workplace procedures 3.2 Monitor key measures of JIT relevant to workplace 3.3 Conduct regular liaison with key stakeholders seeking areas for improvement

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Waste includes:	• activities and results to be eliminated within manufacturing • categories of waste include: • excess production and early production • waiting • materials queuing and not moving • people not working • transporting • double handling • poor process design • inventory • stores • buffers • lot sizes • inefficient performance of a process, reaching, bending, exertion, making defective items, rework, rejects and unnecessary inspection
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Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM30014A Apply basic just in time systems to the reduction of waste.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

Assessment Requirements for MEM30014 Apply basic just in time systems to the reduction of waste

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include:

- applying basic JIT systems to the reduction of waste on at least two occasions
- identifying potential to eliminate waste in the current system
- drafting workable procedures to implement improvements to JIT system
- implementing and monitoring the JIT system/improvements.

Note: Where a volume and/or frequency is not specified, demonstration must be provided at least once.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- value chain
- sources of workplace waste related to manufacturing operations
- JIT manufacturing philosophy
- push and pull systems
- Kanban
- flow authorisation indicators
- housekeeping principles, including the principles of 5S (seiri, seiton, seison, seiketsu, shitsuke)
- key measures for improvement, including inventory levels, lead time, delivery, productivity, set up time, quality, rework and scrap rates
- work cells
- set up time reduction techniques
- group technology
- ABC analysis of inventory
- principles of total quality management (TQM)
- principles of total productive maintenance (TPM)
- hazards and control measures associated with applying basic JIT systems to the reduction of waste

- safe work practices and procedures.

Assessment Conditions

- Assessors must:
 - have vocational competency in applying basic just in time systems to the reduction of waste at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the Standards for Registered Training Organisations 2015 or its replacement and comply with the National Vocational Education and Training Regulator Act 2011, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires.
- Where possible, assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions that cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required including relevant workplace procedures, product and manufacturing specifications.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
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